WEST AND SOUTHWEST WINNETKA STORMWATER MANAGEMENT STUDY

AWARENESS PHASE PUBLIC MEETING • JANUARY 2016

THE VILLAGE OF WINNETKA
SINCE 1869

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HUMAN NATURE

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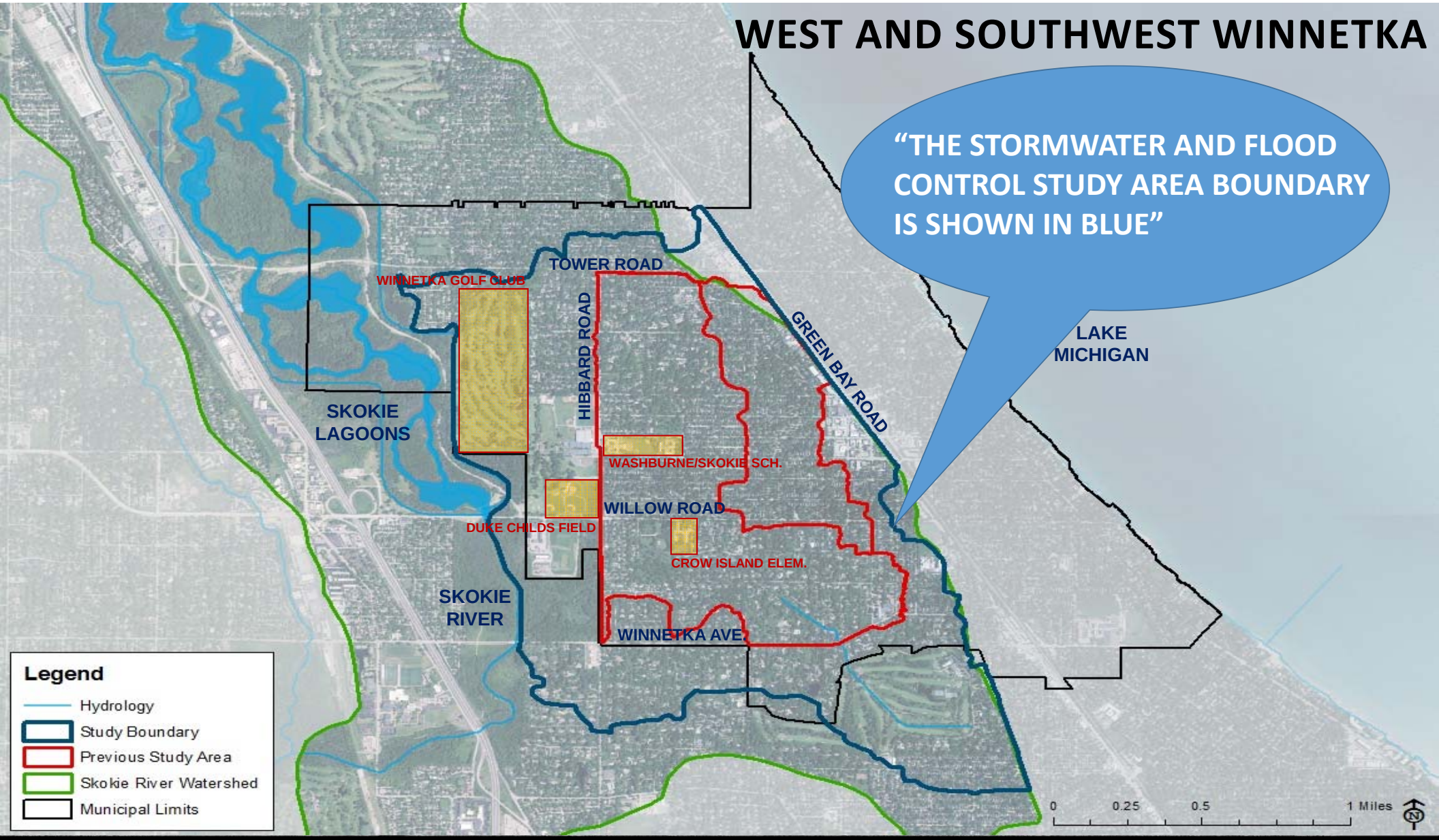
WEST AND SOUTHWEST WINNETKA



THE VILLAGE OF WINNETKA SINCE 1869

STUDY BOUNDARY

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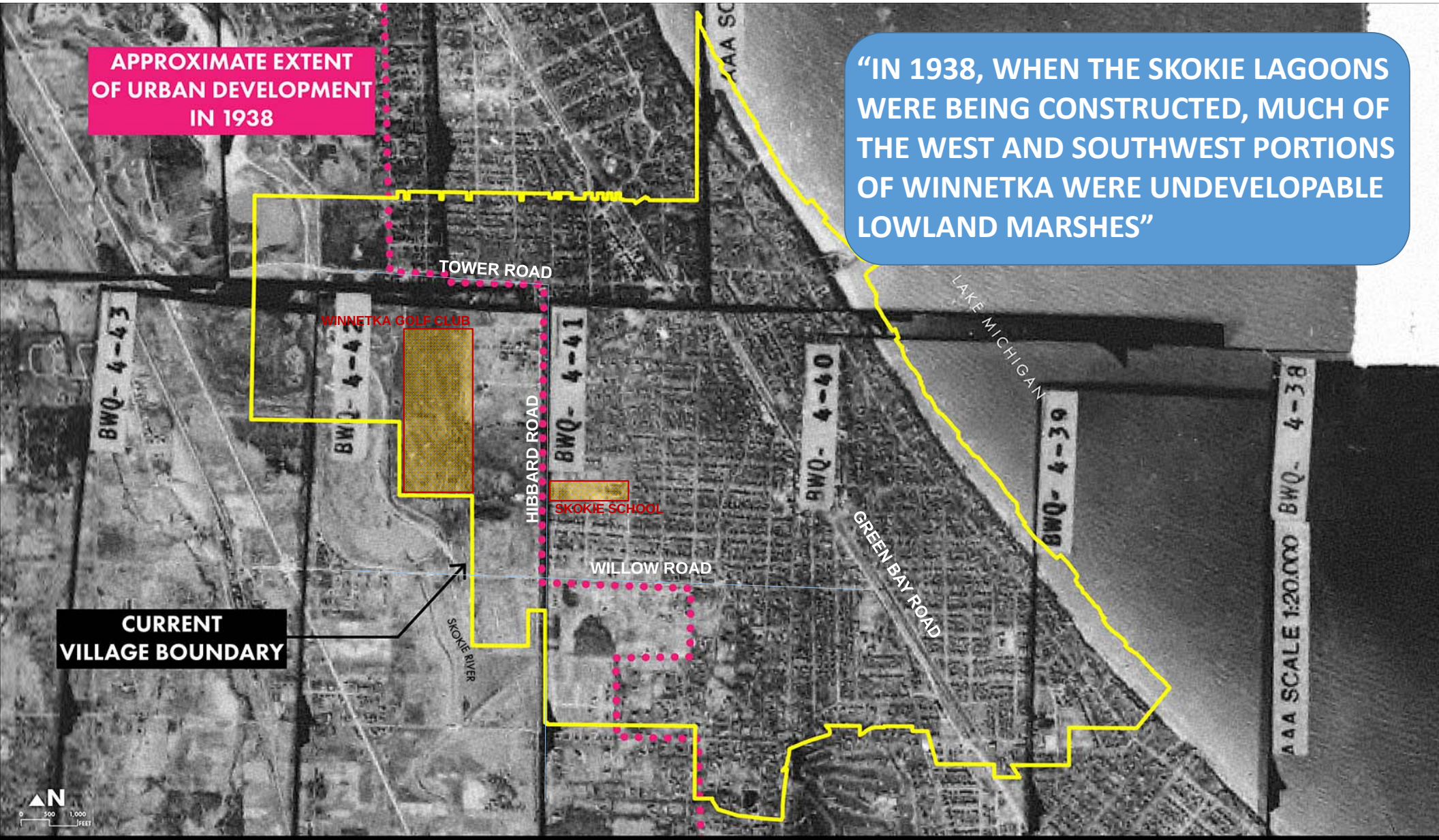

THE VILLAGE OF WINNETKA SINCE 1869

1938 AERIAL IMAGE

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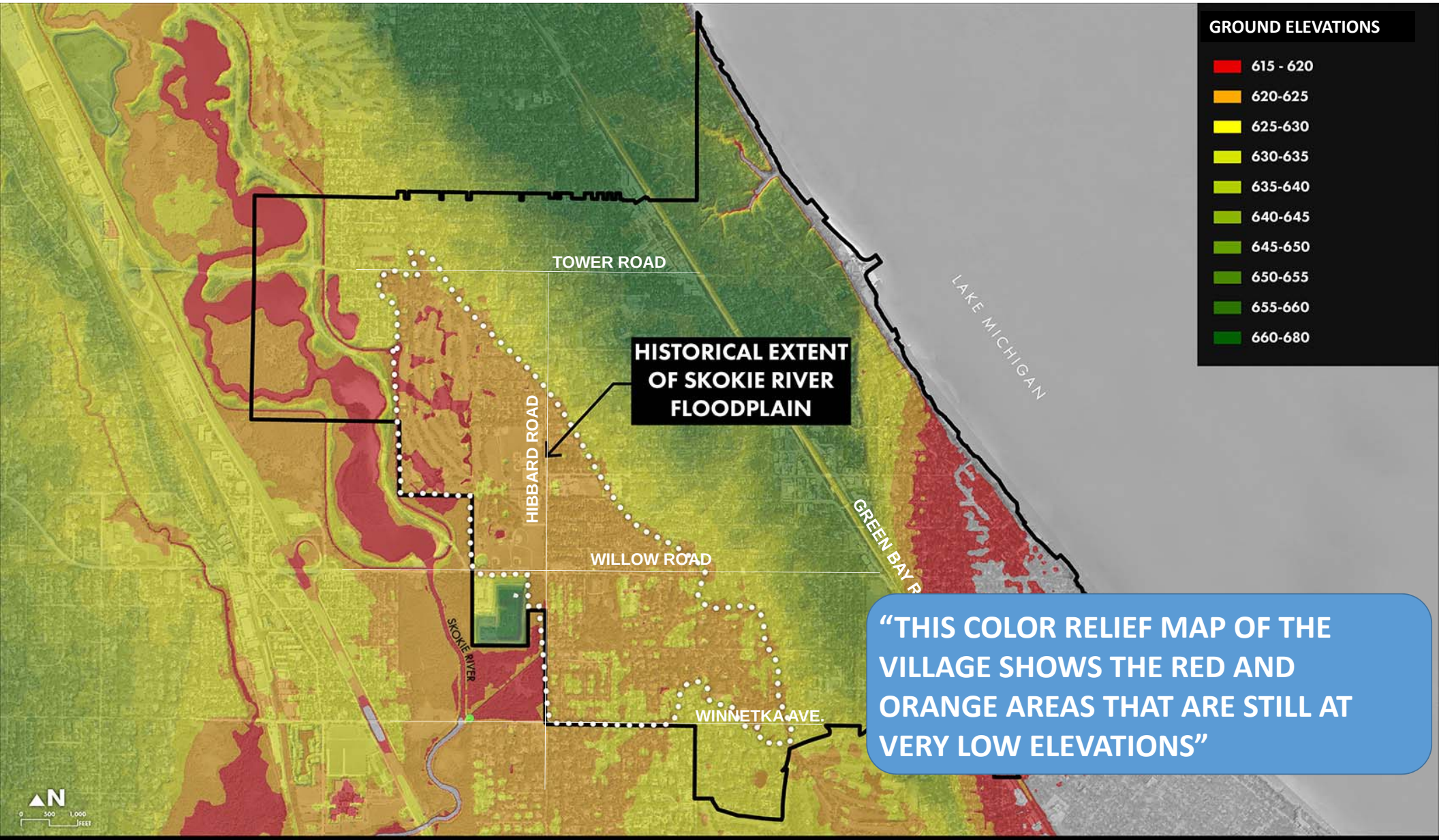
“The character of the marsh varied from season to season.

During the spring and summer, water levels in the marsh ranged from a few inches to several feet deep.”

SOURCE: http://skokielagoons.omeka.net



"THIS COLOR RELIEF MAP OF THE VILLAGE SHOWS THE RED AND ORANGE AREAS THAT ARE STILL AT VERY LOW ELEVATIONS"

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ELEVATION RANGES

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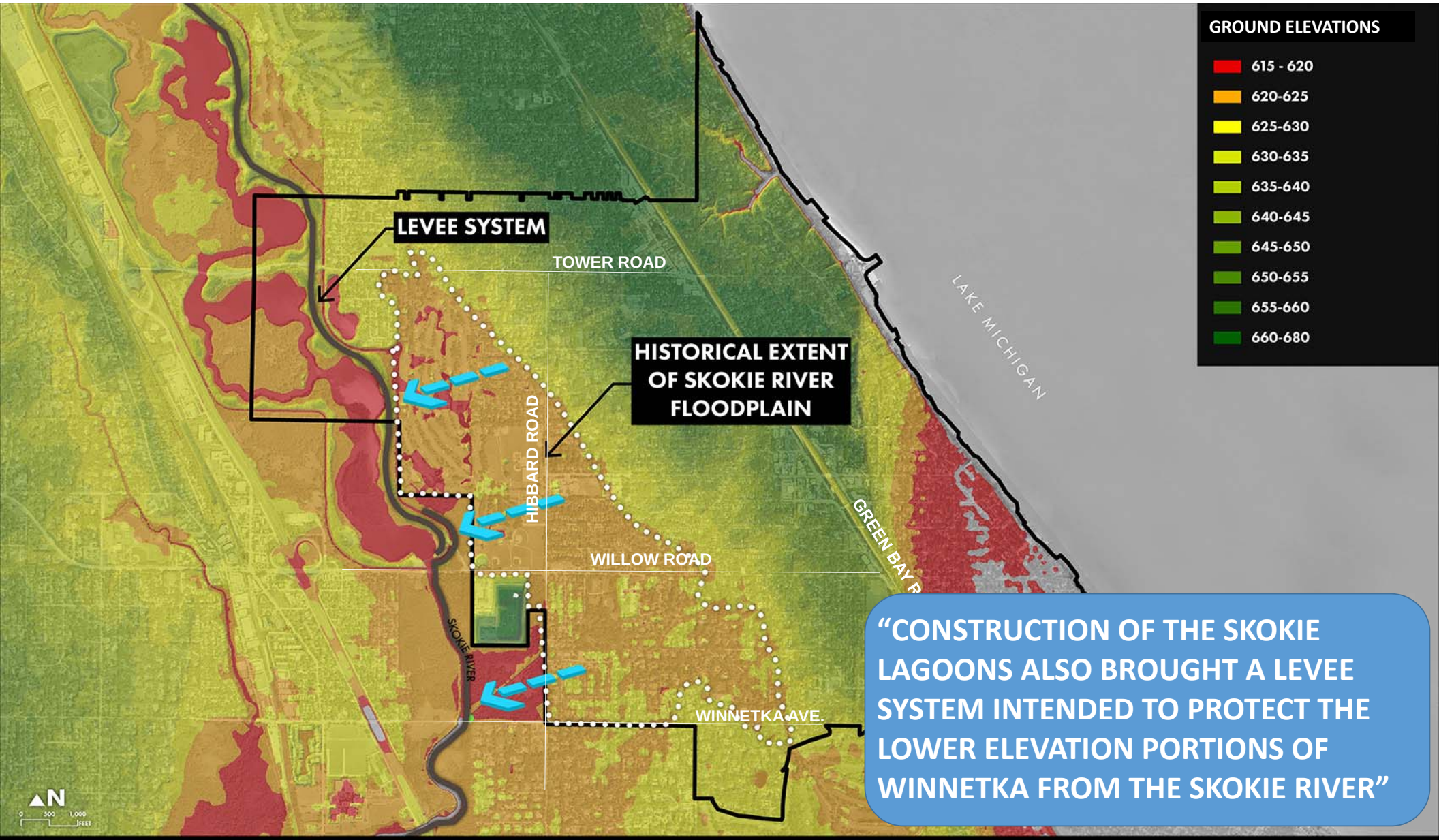

"CONSTRUCTION OF THE SKOKIE LAGOONS ALSO BROUGHT A LEVEE SYSTEM INTENDED TO PROTECT THE LOWER ELEVATION PORTIONS OF WINNETKA FROM THE SKOKIE RIVER"

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ELEVATION RANGES

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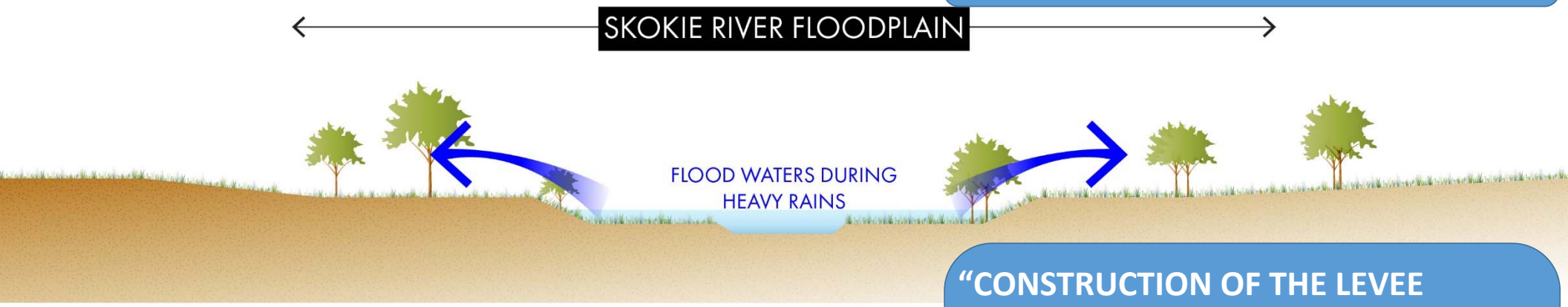
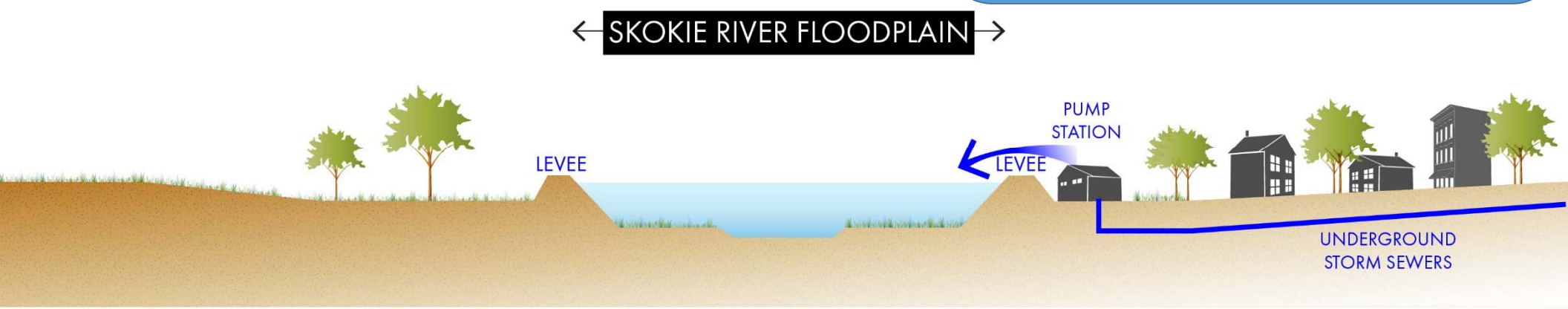
“HISTORICALLY, THE SKOKIE RIVER WAS ABLE TO OVERFLOW ITS BANKS”



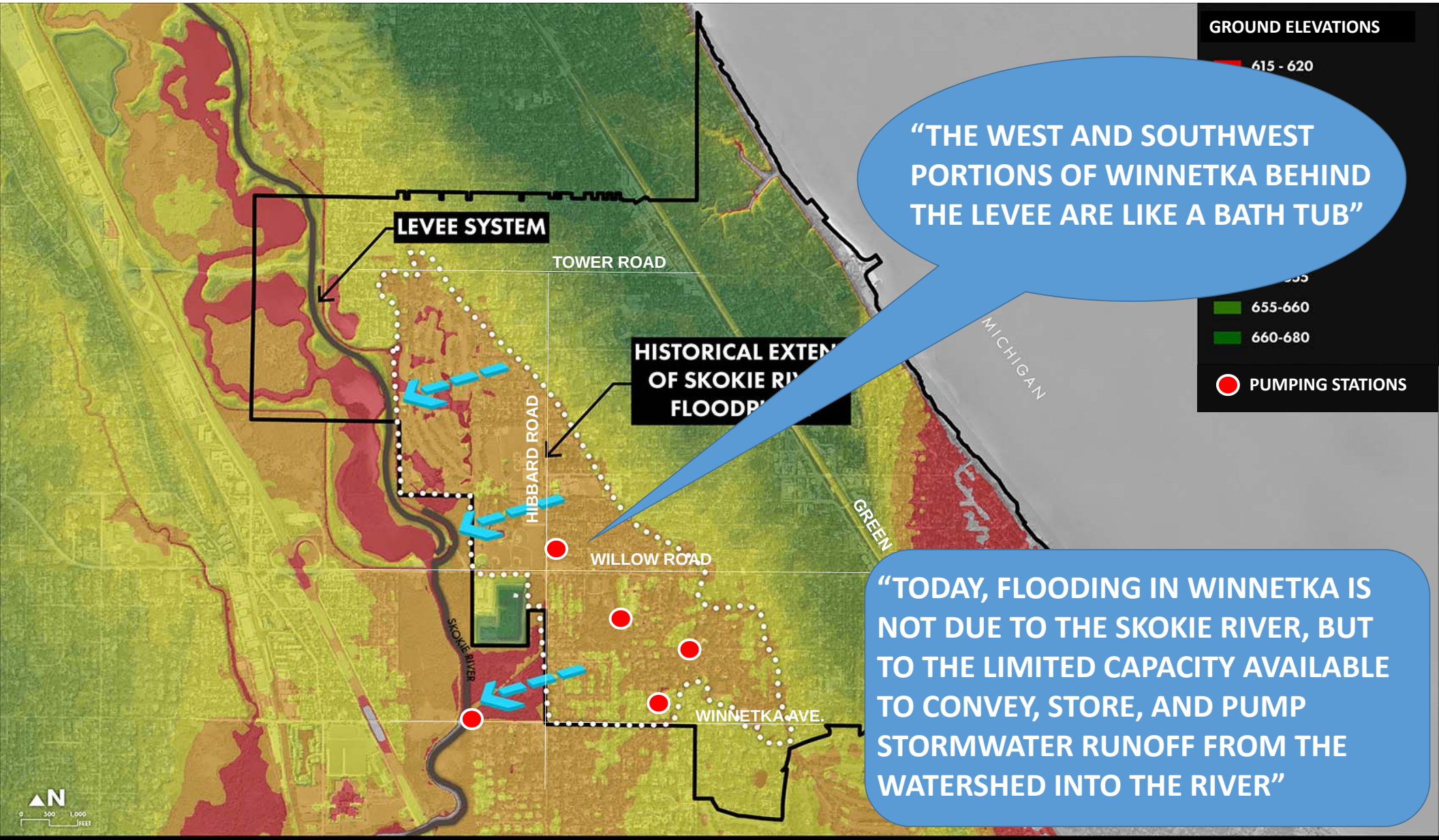
HISTORICAL CONDITION

“CONSTRUCTION OF THE LEVEE SYSTEM CONSTRICTED THE RIVER BUT ALSO IMPEDED NATURAL DRAINAGE OF WINNETKA TO THE RIVER, REQUIRING PUMPING OF STORMWATER OVER THE LEVEE”



CURRENT CONDITION

CONCEPTUAL GRAPHIC - NOT TO SCALE



"THE WEST AND SOUTHWEST PORTIONS OF WINNETKA BEHIND THE LEVEE ARE LIKE A BATH TUB"

"TODAY, FLOODING IN WINNETKA IS NOT DUE TO THE SKOKIE RIVER, BUT TO THE LIMITED CAPACITY AVAILABLE TO CONVEY, STORE, AND PUMP STORMWATER RUNOFF FROM THE WATERSHED INTO THE RIVER"

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ELEVATION RANGES

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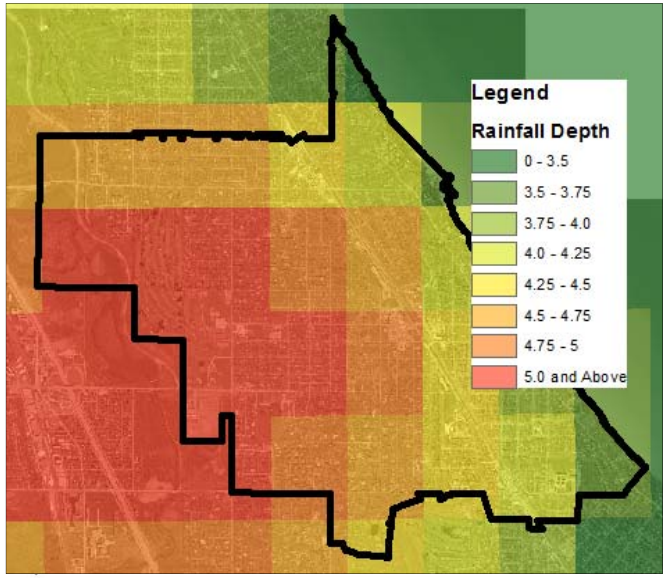
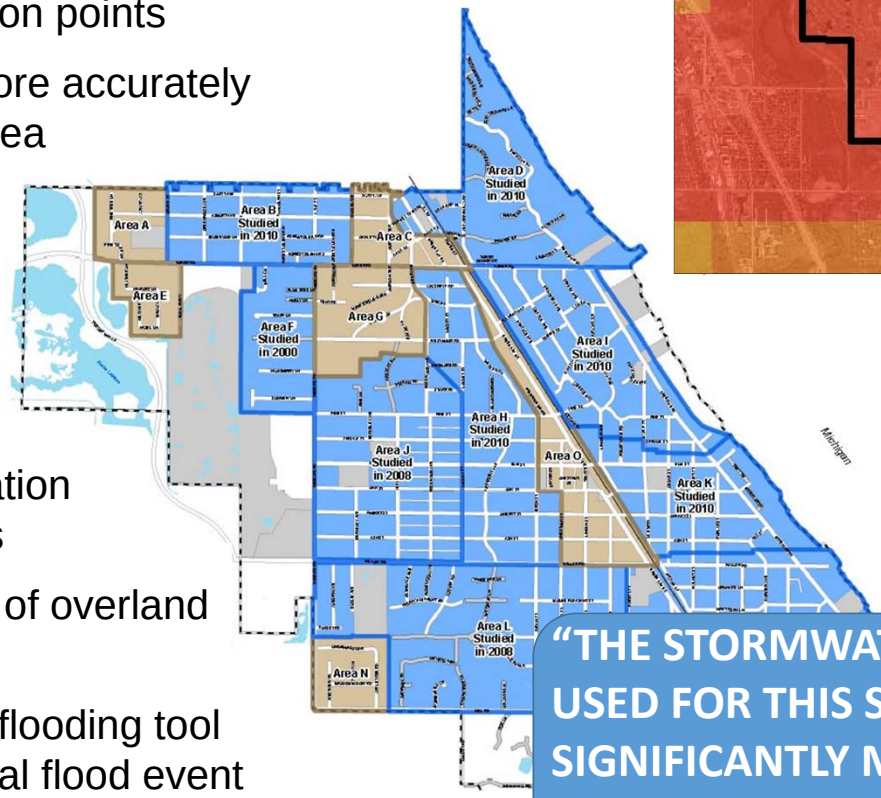
Improved Stormwater Modeling

XP-SWMM 2D Modeling

- Combined 6 independent models into 1 model
- Utilized LIDAR topographic data representing millions of individual ground elevation points
- Utilized Nexrad rainfall data that more accurately distributes rainfall over the study area

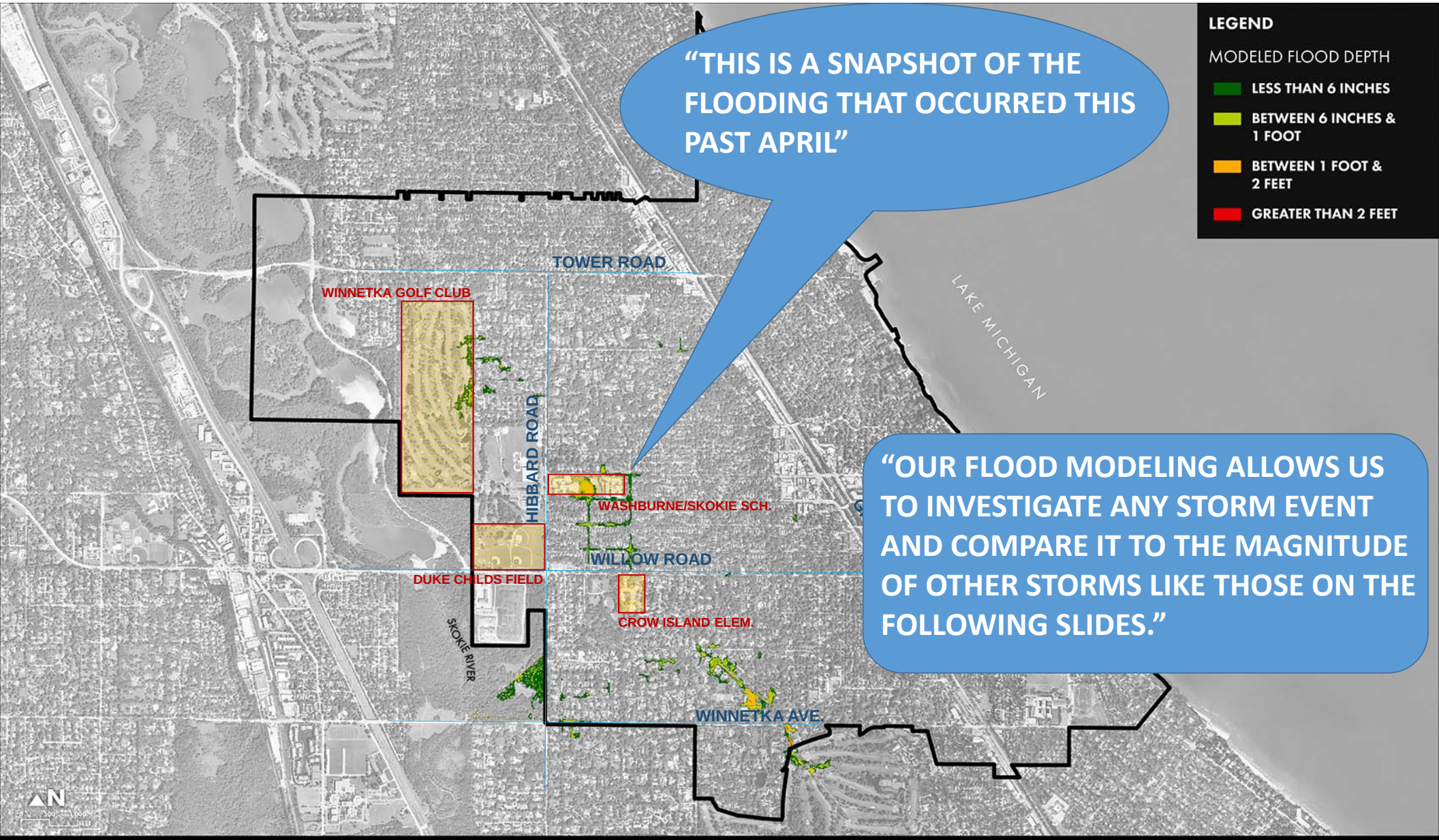




XP-SWMM 2D Results

- Provides more accurate representation of flood storage areas and volumes
- Provides more accurate simulation of overland flood routes
- Provides dynamic, real-time visual flooding tool for improved understanding of actual flood event

"THE STORMWATER MODELING BEING USED FOR THIS STUDY IS SIGNIFICANTLY MORE SOPHISTICATED AND POWERFUL"



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MODELED FLOOD DEPTHS: APRIL 2015 EVENT

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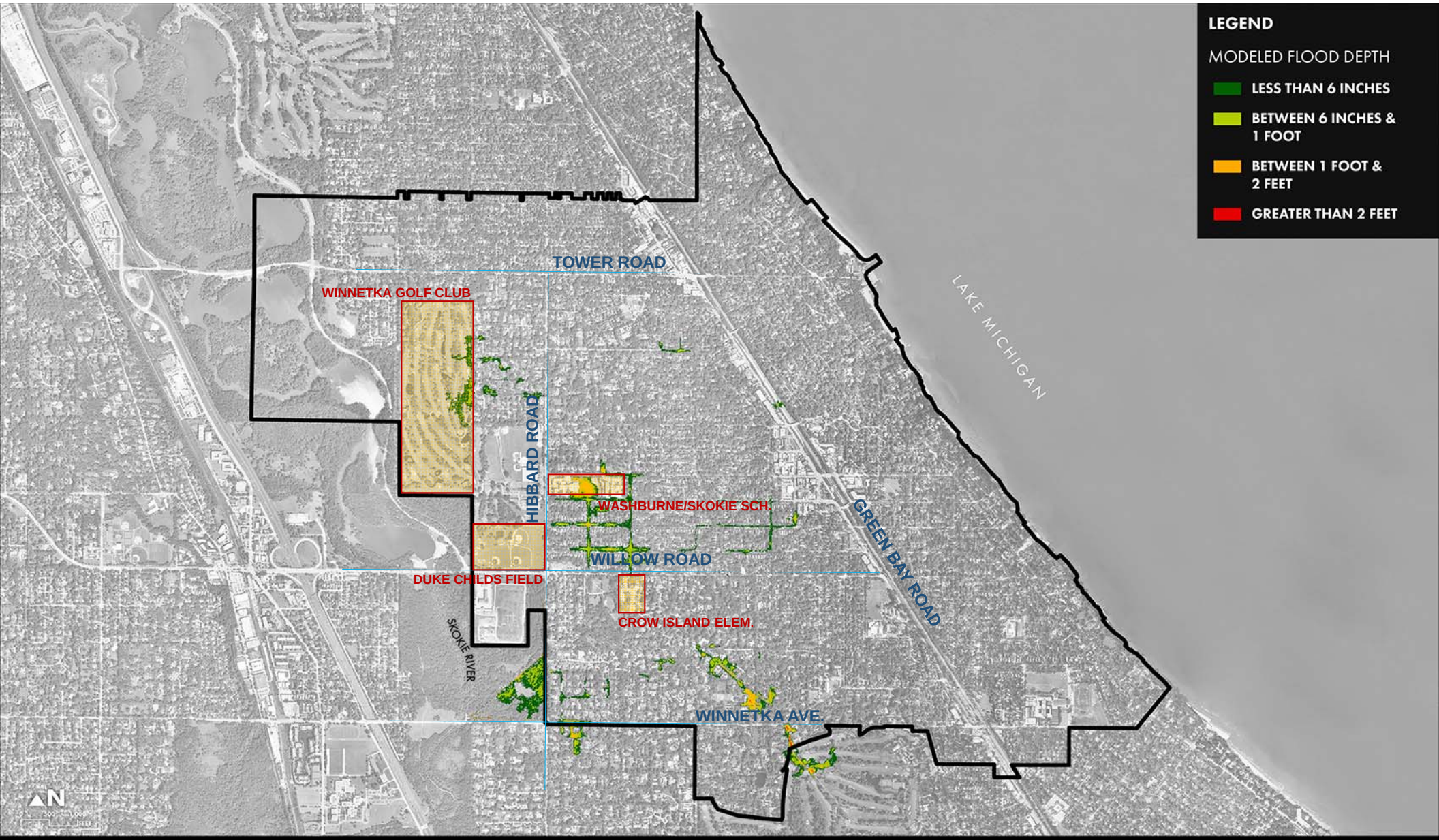

THE VILLAGE OF WINNETKA
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MODELED FLOOD DEPTHS: 2-YEAR EVENT

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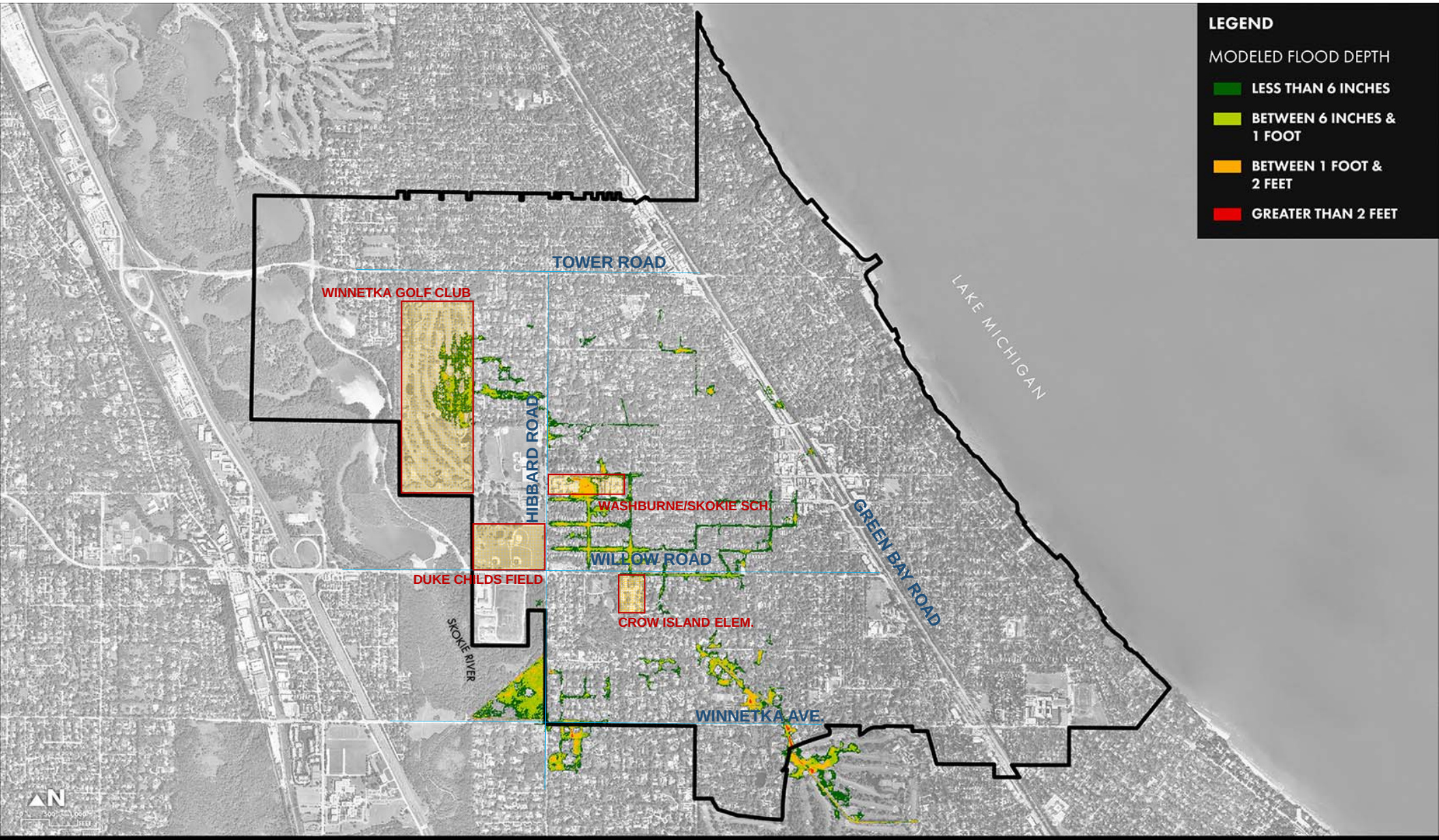

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MODELED FLOOD DEPTHS: 5-YEAR EVENT

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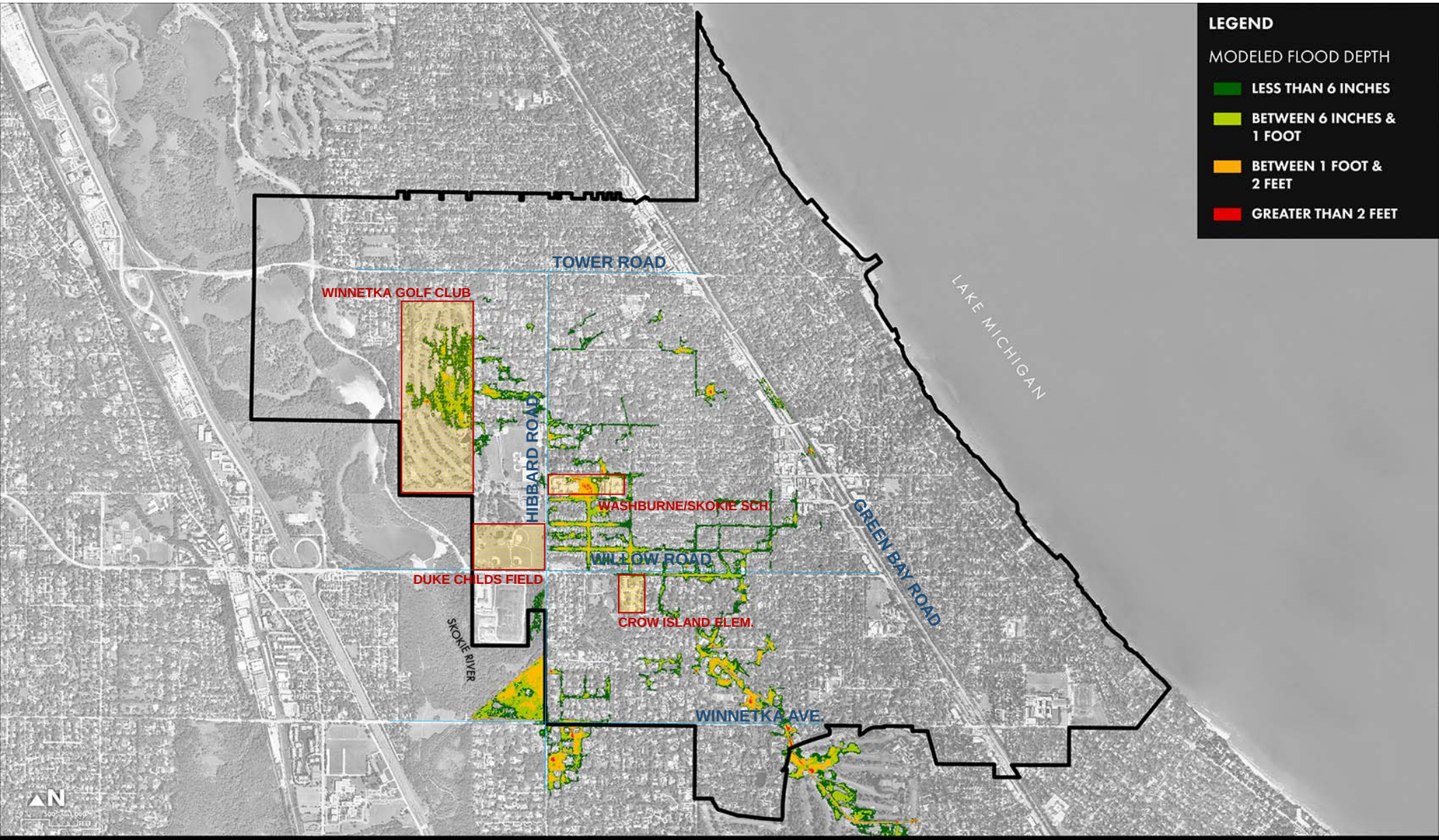

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MODELED FLOOD DEPTHS: 10-YEAR EVENT

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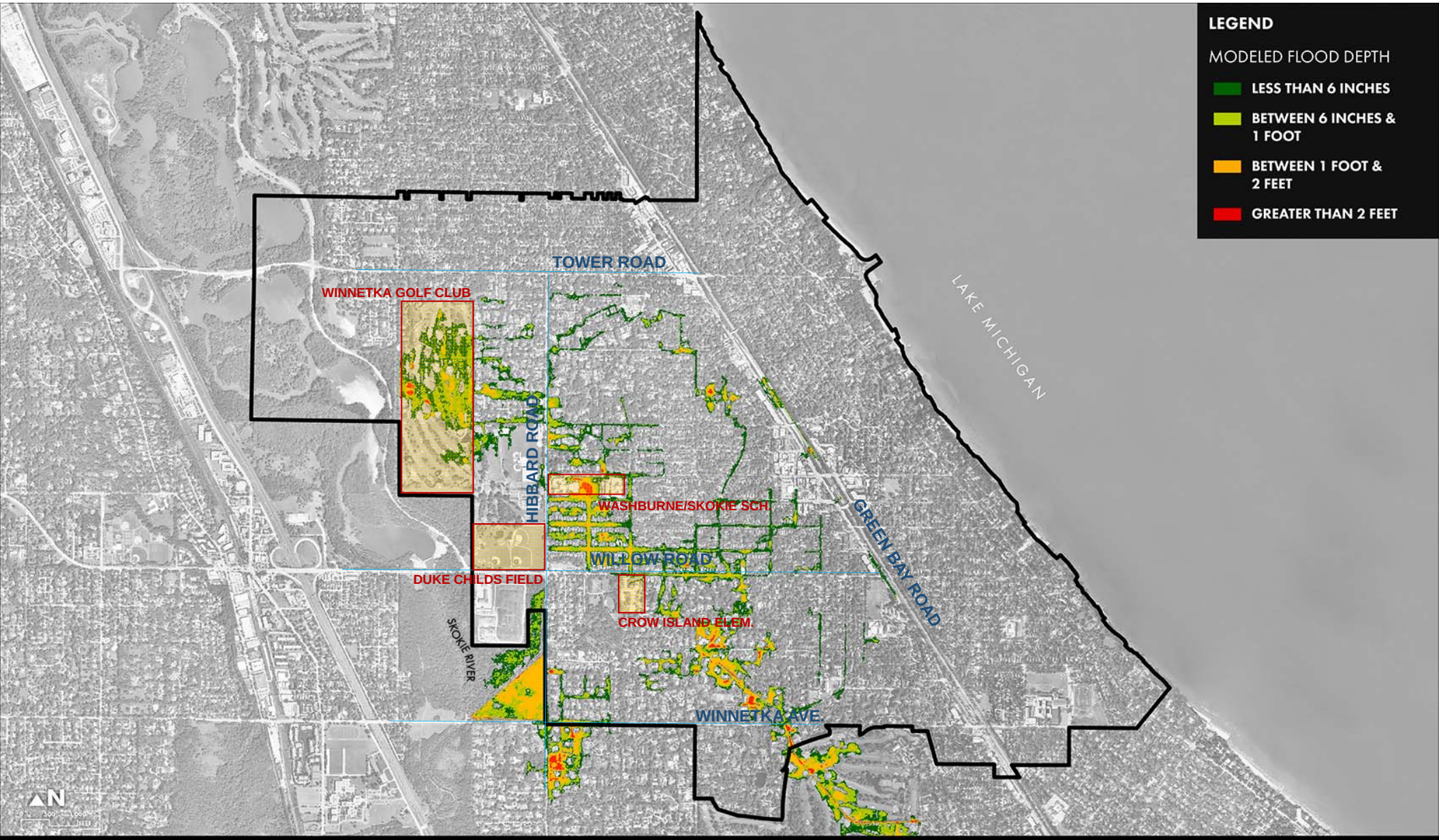

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MODELED FLOOD DEPTHS: 25-YEAR EVENT

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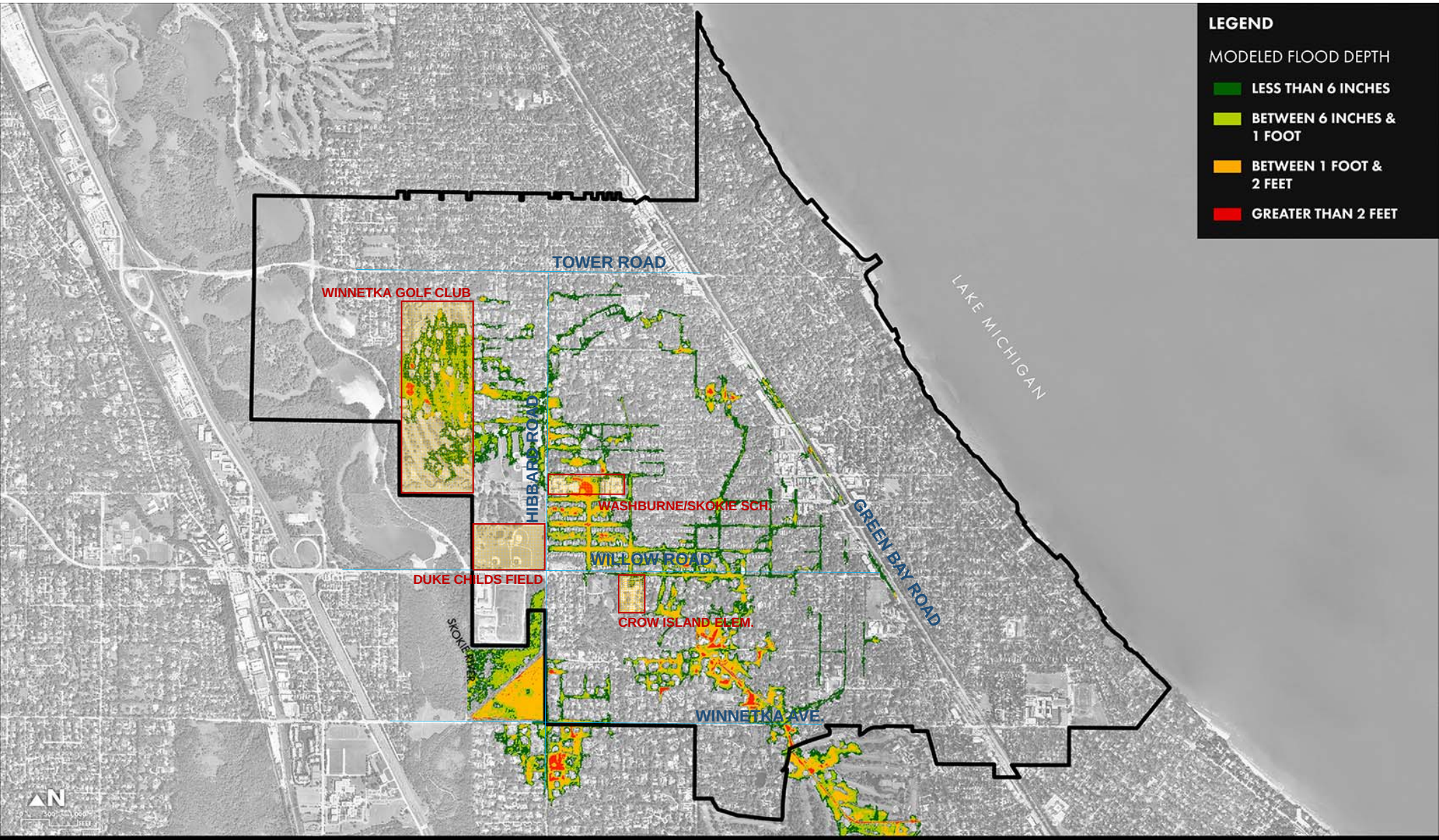

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MODELED FLOOD DEPTHS: 50-YEAR EVENT

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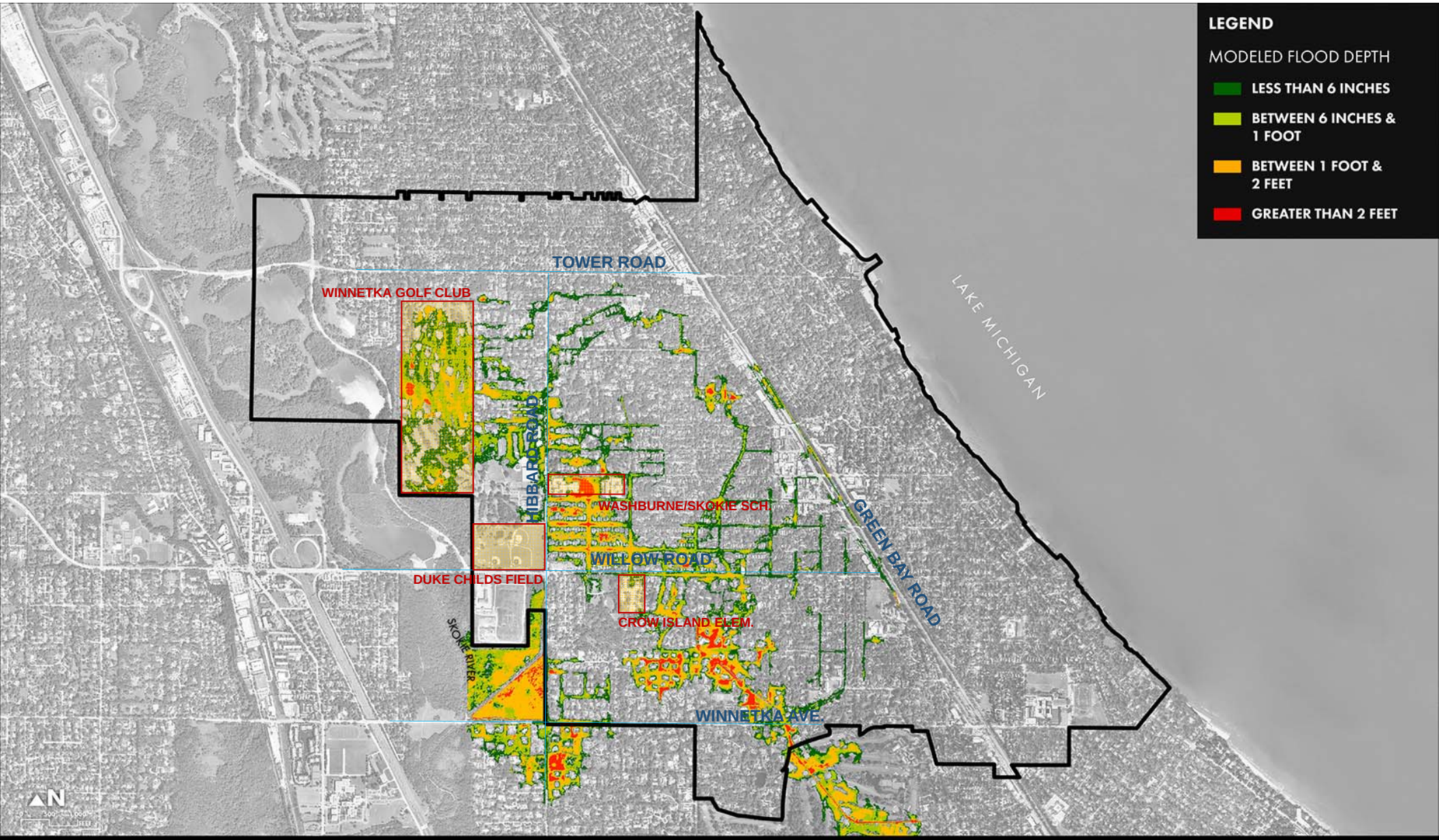

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MODELED FLOOD DEPTHS: 100-YEAR EVENT

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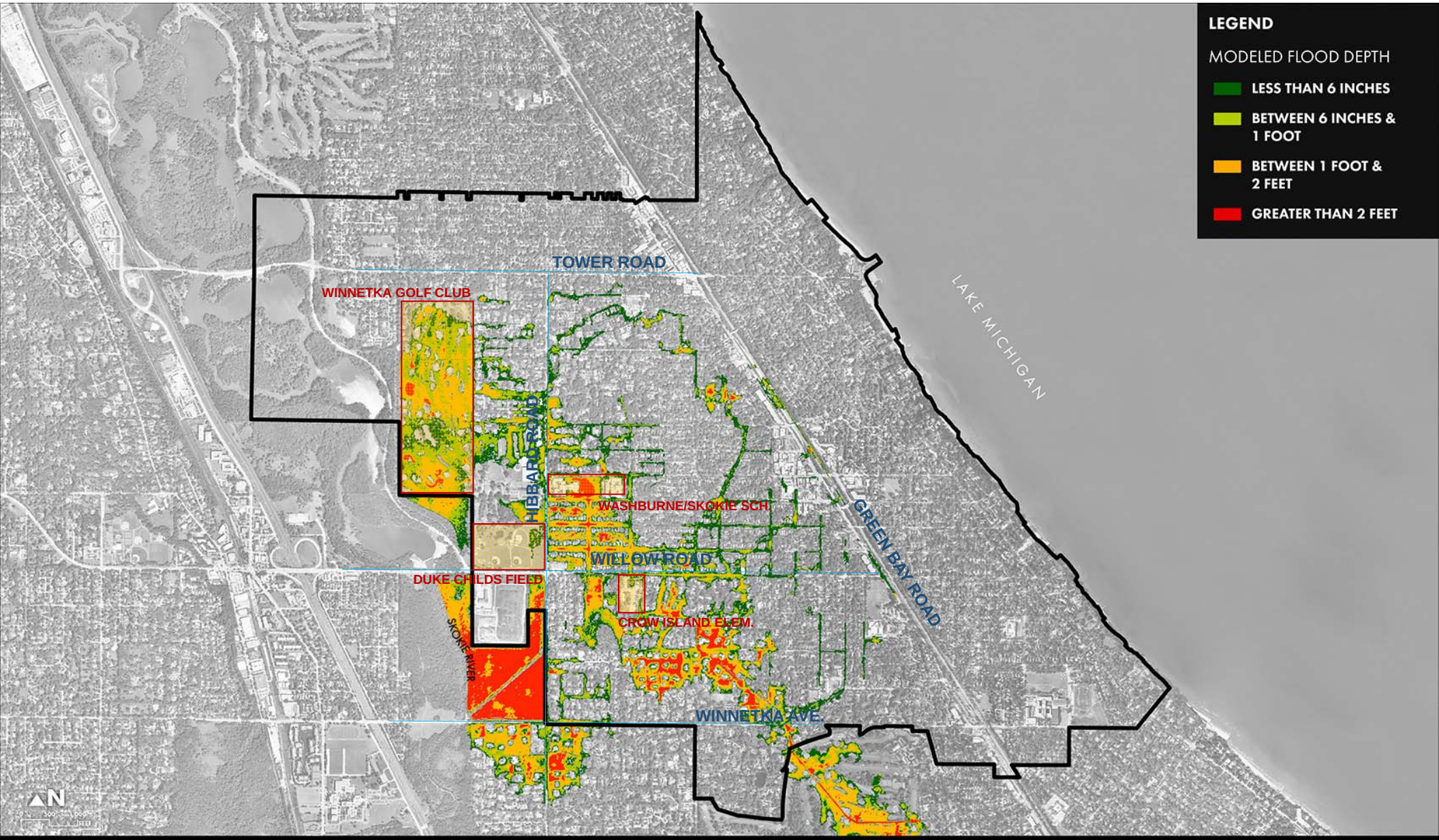

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MODELED FLOOD DEPTHS: SEPTEMBER 2008 EVENT

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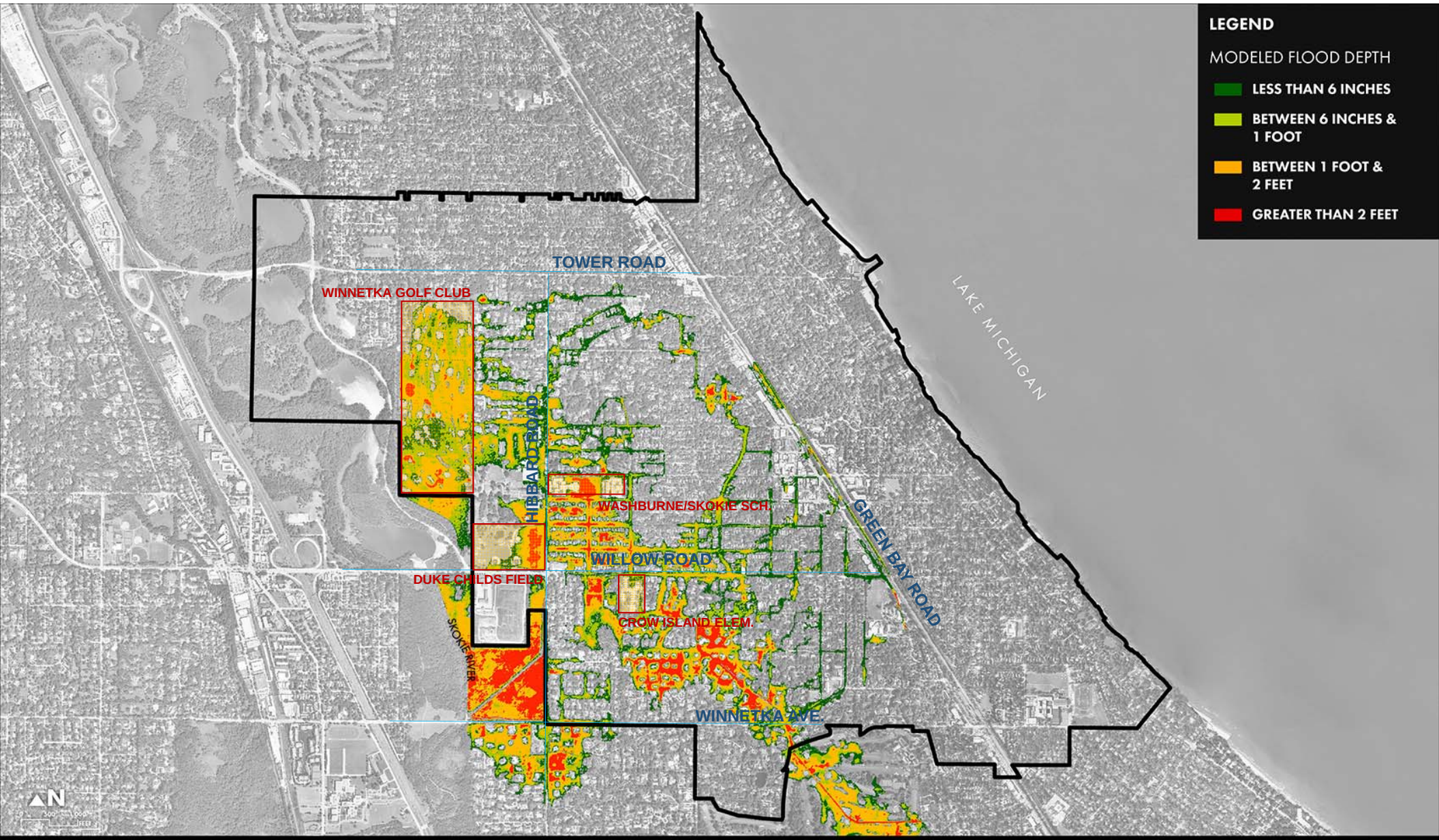

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MODELED FLOOD DEPTHS: JULY 2011 EVENT

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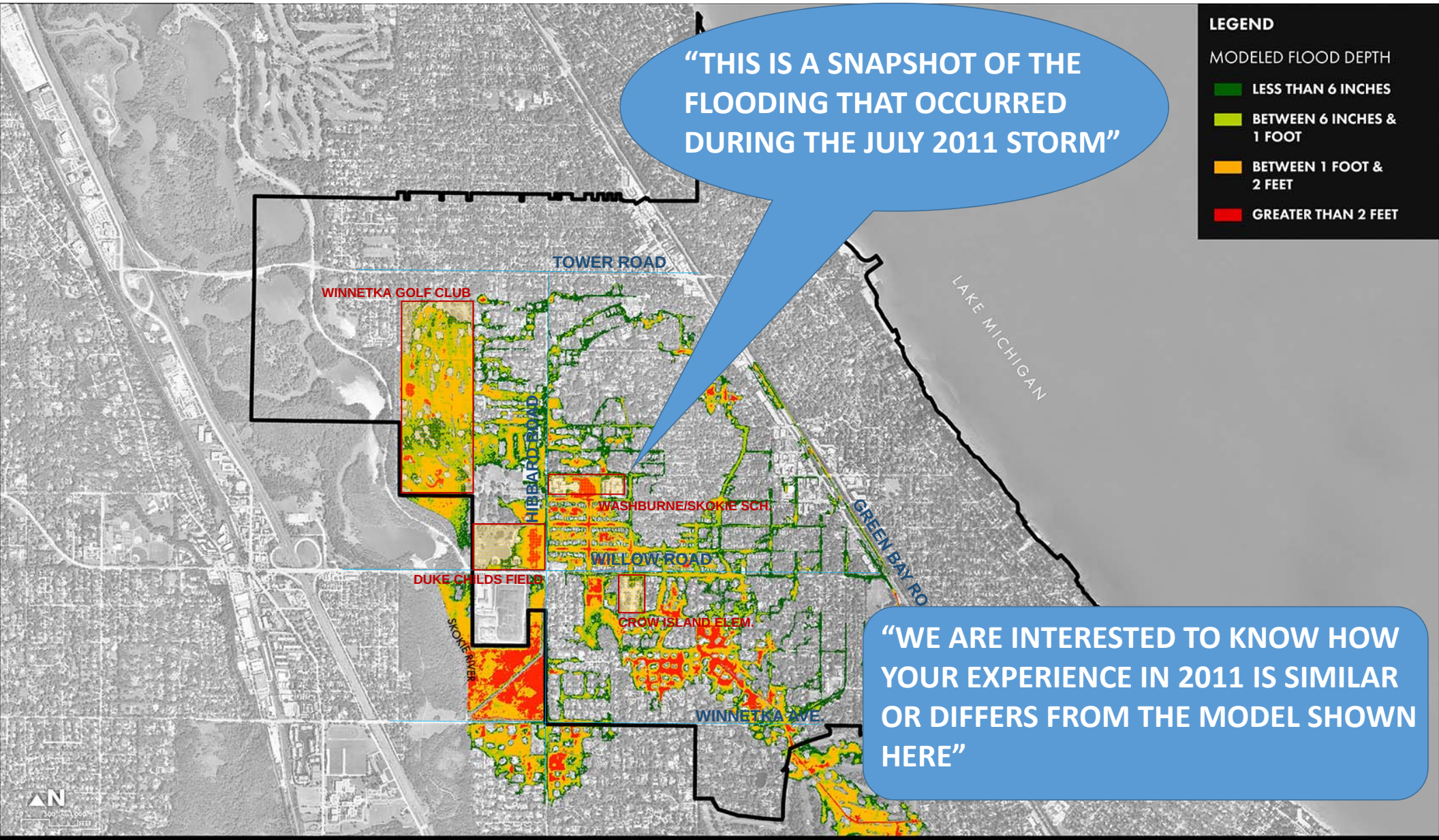

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MODELED FLOOD DEPTHS: JULY 2011 EVENT

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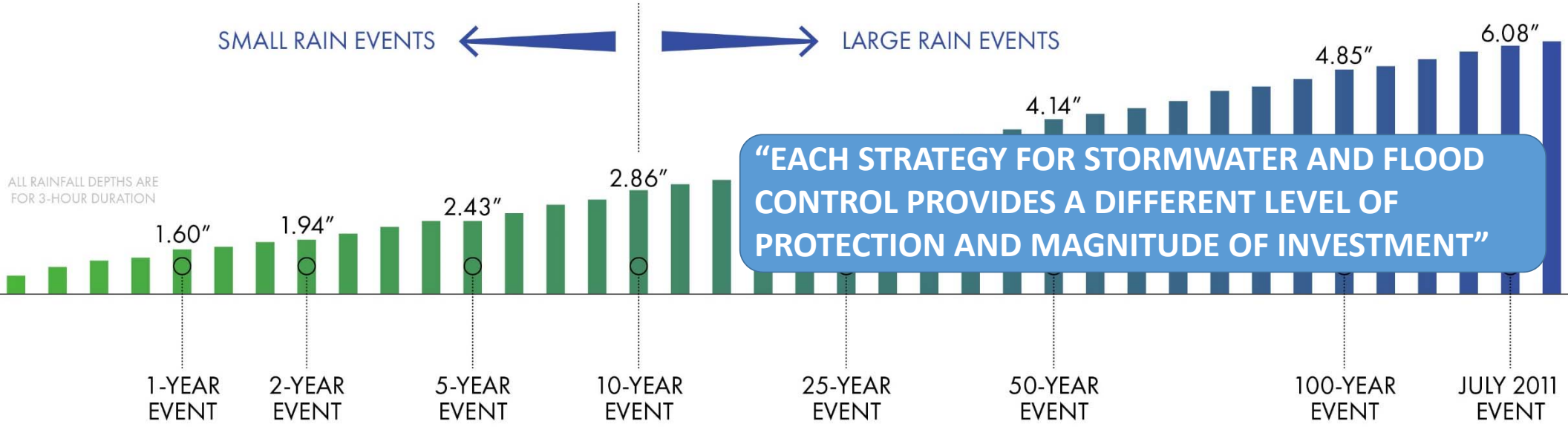
THE VILLAGE OF WINNETKA SINCE 1869

Stormwater Management Strategies

"ARMED WITH THE ADDITIONAL INFORMATION GATHERED FROM THIS MEETING, OUR TEAM WILL BEGIN TO EVALUATE VARIOUS STRATEGIES FOR STORMWATER AND FLOOD CONTROL"

THE VILLAGE OF WINNETKA SINCE 1869

Stormwater Management Strategies



"EACH STRATEGY FOR STORMWATER AND FLOOD CONTROL PROVIDES A DIFFERENT LEVEL OF PROTECTION AND MAGNITUDE OF INVESTMENT"

HOMEOWNER-LEVEL INFRASTRUCTURE

NEIGHBORHOOD-LEVEL INFRASTRUCTURE

WATERSHED-LEVEL INFRASTRUCTURE

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"PLEASE TAKE A MOMENT TO PROVIDE US WITH YOUR FEEDBACK. "

- **SHARE YOUR COMMENTS BY EMAIL:**
  stormwatercomments@winnetka.org
- **SHARE YOUR COMMENTS BY PHONE:**
  847-716-3549

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